USSR

KOLACHEV, B. A., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 3, 1973, pp 120-124

characteristics when water cooled after annealing at 700-650° C. In Ti-Mo alloys, the ω-phase does not develop with air-cooling after annealing at temperatures $<650^{\circ}C$ and with water-cooling after annealing at temperatures $<700^{\circ}C$. five figures, three bibliographic references.

2/2

USSR

UDC 669.295.5'28.017.3

KOLACHEV, B. A., MAMONOVA, F. S., and LYASOTSKAYA, V. S., Moscow

"Martensite Decomposition in Ti-Mo Alloys During Tempering"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan/Feb 74, pp 200-203

Abstract: The mechanism and kinetics of martensite decomposition were investigated for Ti-Mo alloys containing 2.1, 4.4, 5.9, and 8.3% Mo_{β}. Choice of alloys was made such that after quenching from the beta region (950° C) they would have phase compositions of: alpha', alpha", and low-alloyed alpha" and a"+beta. It was found that decomposition of alpha'-martensite during tempering (450° C) yields a depleted alpha'-phase + the beta-phase which in turn yields the alpha-beta phase. Decomposition of a"-martensite follows two paths: 1) the low-molybdenum concentration path of alpha" to depleted alpha" + beta to the alpha-beta phase; and 2) the high-molybdenum concentration path of: alpha" → beta → beta+omega → beta+alpha" → beta+alpha"+alpha' → beta+alpha. Decomposition of alpha'-martensite is accomplished by little alloy strengthening while alpha"-martensite decomposition starts with significant alloy strengthening and then weakening (softening) where the softening effect is determined by the alloy content and the martensite decomposition process. The most softening was observed for alpha"+beta Ti-Mo alloys. Three figures, five bibliographic references.
1/1

Welding

USSR UDC 621.791.052.01:669.295

KOLACHEV, B. A., Doctor of Technical Sciences, MAKONOVA, F. S., Engineer, ARTSYBASOV, YU. N., Engineer, SHCHENNIKOVA, A. YE., Engineer, and GORSHKOV, YU. V., Engineer

"Effect of Expansion and Vacuum Annealing on Residual Stresses in Welded OT4-1 Alloy Joints"

Moscow, Svarochnoye Proizvodstvo, No 2(460), Feb 73, pp 35-36

Abstract: The effect of expansion and vacuum annealing on residual stresses of the first and second types across the weld seam and over the thickness of the weld seam were investigated on specimens of 2-mm-thick OT4-1 alloy sheet material. The stress distributions are analyzed by reference to diagrams. Tensile stresses of the first type act in the metal of the seam immediately after welding; they are maximum on the initial metal -- seam boundary and they change to compression stresses 6 mm from the seam center. Expansion decreases of the first type, and vacuum annealing eliminates them completely. Residual stresses of the second type on the order of 10 kg/mm^2, act immediately after welding in the weld joint; the microstresses of the weld joint are only slightly affected by expansion, but they decrease significantly with vacuum annealing. The decrease of residual stresses as a result of expansion and vacuum annealing decreases the tendency of welded joints to develop cracks. Four figures, three bibliographic references.
1/1

UDC 669.295

USSR

KOLACHEV, B. A., MANOMOVA, E. S., and LYASOTSKAYA, V. S., Moscow Aviation Technological Institute

"Composition of Martensite in Hardened Ti-Mo Alloys"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 1, 1973, pp 115-116

Abstract: X-Ray diffraction analysis of Ti-Mo rods hardened at 950°C for 30 min. showed that the rhombic lattice distortion of the α''-phase increases with increasing concentration of molybdenum (above 4%), and it reaches maximum value when the molybdenum concentration reaches 6% and remains unchanged thereafter. The crystal lattice parameters a and b $\sqrt{3}$ are not equal, starting with 4% of Mo in alloy because of the appearance of the α''-phase with rhombic lattice. Difference between these two parameters increases with increasing concentration of Mo up to 6% and remains unchanged thereafter. Broadening of lines (11.4) and (10.3) indicated changes in the fine crystal structure due to the appearance of microstresses of the second order, which increase with increasing concentration of molybdenum from 0 to 6%. The obtained experimental results verify an earlier assumption that martensite phases in titanium alloys can be saturated with β-stabilizers up to a certain threshold concentration. In the system Ti-Mo the martensite α'' cannot contain more than 6% Mo. At higher concentrations of Mo in the alloy the

1/2

USSR

KOLACHEV, B. A., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 1, 1973, pp 115-116

splitting of lines of the α' "phase remains constant, and the lattice parameters remain unchanged. Two theories are presented regarding the existence and transformation of the β-phase which need additional experimental verification.

2/2

USSR

UDC 621.382.2

MAMONTOV, A.P., NICHIPURENKO, B.A., OKUNEV, V.D., PRESNOV, V.A.

"Isolation Of p-n Junctions In Gallium Arsenide Under Conditions Of Proton Irradiation"

Fizika i tekhnika poluprovodnikov, Vol 6, No 4, Apr 1972, pp 717-720

Abstract: Gallium arsenide crystals were irradiated in a cyclotron by protons with various energies. A scheme for obtaining isolated p-n junctions is shown and discussed. The energies of the bombarding protons were measured with the aid of aluminum foil placed before the crystals being irradiated. The results of the studies show that isolation of p-n junctions during proton irradiation is an effective method of improving the characteristics of gallium arsenide p-n junctions. 3 figs. 5 ref. Received by editors, 12 May 1971.

1/1

UDC 621.315.592

USSR

MANONTOV, A. P., OKUNEV, V. D., GAMAN, V. I., ZAKHAROV, B. G., Siberian Physicotechnical Institute imeni V. D. Kuznetsov, Tomsk

"Distribution of Radiation Defects in Gallium Arsenide in the Presence of Deuteron Irradiation"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 6, No 5, 1972, pp 865-868

Abstract: On the basis of an electron probe study of the distribution of the luminescence intensity in gallium arsenide when irradiated with deuterons as a function of the deuteron energy and the integral deuteron flux, a quantitative estimate was made of the defect distribution with respect to the path lengths of the deuterons. The dependence of the path length on the deuteron energy was calculated, and the results are compared with the experimental values of the path lengths obtained from the data on the spatial variation of the cathode luminescence. The coefficient of radiation variation of the lifetime K in n-type gallium arsenide increases with an increase in the initial concentration of the carriers, and at the end of the deuteron path it varies from $1.35 \cdot 10^{-2}$(sec·deuteron/cm^{-2})$^{-1}$ for a specimen with a carrier concentration of $n = 7 \cdot 10^{15}$ cm^{-3} to $8.4 \cdot 10^{-2}$(sec·deuteron/cm^{-2})$^{-1}$ for a specimen with $n = 4.5 \times 10^{17}$ cm^{-3}. The defect distribution with respect to the deuteron path length

1/2

USSR

UDC 621.315.592

MAMONTOV, A. P., et al., Fizika i Tekhnika Poluprovodnikov, Vol 6, No 5, 1972, pp 865-868

is characterized by the spatial variation of the coefficient K. Good agreement of the experimental data with respect to the K distribution with the calculated data for the distribution of the rate of introduction of defects n_d is observed.

2/2

1/2 034 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--DISTRIBUTION OF RADIATION DEFECTS IN GALLIUM ARSENIDE DURING PROTON IRRADIATION -U-

AUTHOR-(04)-OKUNEV, V.D., MAMONTOV, A.P., ZAKHAROV, B.G., AZILOV, B.S.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(1), 101-5

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--RADIATION DAMAGE, GALLIUM ARSENIDE, PROTON BOMBARDMENT, CRYSTAL LUMINESCENCE, IMPURITY CENTER, RADIATION INTENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1708 STEP NO--UR/0449/70/004/001/0101/0105

CIRC ACCESSION NO--AP0054550

UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0054550

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DISTRIBUTION OF RADIATION DEFECTS IN GAAS DURING PROTON IRRADN. WAS OBTAINED FROM THE DEPENDENCE OF THE DISTRIBUTION OF LUMINESCENCE INTENSITY ON THE ENERGY (2-5 MEV) AND THE DOSE (4.17 TIMES 10 PRIME10-4.17 TIMES 10 PRIME12 PROTONS-CM PRIME2) OF PROTONS. THE DISTRIBUTION OF THE LUMINESCENCE INTENSITY OVER THE CRYSTAL DEPTH WAS MEASURED BY MEANS OF AN ELECTRON MICROPROBE. THE EXPTL. VALUES OF THE DEPTH OF PROTON PENETRATION ARE IN GOOD AGREEMENT WITH CALCD. ONES. THE MAGNITUDE OF THE CHANGE OF THE LUMINESCENCE INTENSITY DURING PROTON IRRADN. DEPENDS ON THE TYPE AND CONCN. OF IMPURITIES IN GAAS. FOR TE DOPED GAAS, THE INTENSITY CHANGE OBTAINED IS EXPLAINED AS DUE TO THE FORMATION OF COMPLEXES LIKE GA SUB2 V SUBGA TE SUB3 (V SUBGA IS A GA VACANCY).

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--PNEUMONIAS AFTER RESECTION OF THE LUNG FOR CANCER -U-

AUTHOR-(02)-RODIONOV, V.V., MAMONTOV, A.S.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 3, PP 16-21

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LUNG, SURGERY, CANCER, PNEUMONIA, RESPIRATION, ANTIBACTERIAL THERAPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0849

STEP NO--UR/0539/70/104/003/0016/0021

CIRC ACCESSION NO--AP0102810

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--02OCT70

2/2 023

CIRC ACCESSION NO--AP0102810

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACCORDING TO THE AUTHORS DATA IN 57 OF 846 (6.7PERCENT) PATIENTS SUBJECTED TO PNEUMONECTOMY FOR CANCER POSTOPERATIVE PNEUMONIAS WERE OBSERVED. MAINTENANCE OF AN ADEQUATE DRAINAGE FUNCTION OF THE BRONCHIAL TREE PRIOR TO, DURING AND AFTER THE OPERATIVE PROCEDURE, AS WELL AS MEASURES DIRECTED TO PROMPT AND TOTAL EXPANSION OF THE REMAINED LUNG PORTION ARE BASIC CRITERIA OF PROPHYLAXIS AGAINST POSTOPERATIVE PNEUMONIAS IN PATIENTS SUBJECTED TO PULMONARY RESECTION FOR CANCER. ANTIBACTERIAL THERAPY AND MEASURES AGAINST ACUTE RESPIRATORY INSUFFICIENCY ARE OF PRIMARY IMPORTANCE IN TREATMENT OF POSTOPERATIVE PNEUMONIAS.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201920008-7"

directorship of K. M. SALDAZE and has been [illegible]
The device is movable, simple to operate, and requires relatively little electricity to run, about 0.5 kilowatt-hours for the removal of one kilogram of salt from the water (i.e., for the desalination of 50 liters of water with a salt concentration of 18-20 g salt/liter). The device consists of a cell with a cathode at one end and an anode at the other. A series of alternatingly ion-selective polymeric membranes (membranes permeable to either only anions or only cations) is arranged between the electrodes and forms a series

1/2

USSR

MAMONTOV, E.

" 'Rodnik-3': 25 Cubic Meters of Fresh Water in One Day"

Khimiya i Zhizn' 6, No 7, 1970, pp. 24-25

Abstract: On a daily basis, the device described in this paper can [illegible] cubic meters of unpalatable salt water into fresh

tion in the water becomes increasingly lower until it reaches the level of fresh water. When it leaves the device, the water is filtered through active charcoal and is then useful as drinking water.

2/2

7366, 7527
CSO: 1841-H

- END -

USSR UDC 669.243

MAMONTOV, N. F.

"The Influence of Certain Factors on Internal Stresses in Electrolytic Nickel"

Moscow, Tsvetnye Metally, No 11, Nov 72, pp 16-18.

Abstract: Laboratory tests were performed in order to determine the conditions necessary for production of soft nickel precipitates and the primary factors which determine the level of internal stresses in the metal during electrolytic production of nickel. With a current density of 3.5 a/dm^3 at 70°C, the increase in internal stresses in electrolytic nickel is particularly great for the first 30-40 minutes of an experiment, after which the rigidity of the metal increases only slightly. Curves are presented, showing the internal stresses of nickel as functions of solution pH, current density and temperature. Internal stresses increase with increasing pH to pH 4, then drop slightly to pH 4.7, then rise even more sharply to pH 5.5. Internal stresses increase with increasing current density to 3.5 a/dm^3, then drop off again as current density continues to increase to 5 a/dm^3. Internal stresses drop with increasing solution temperature from 30 to 60°C, then rise again as temperature continues to increase to 90°C.
1/1

MAMONTOV, E., Khimiya i Zhizn' 6, No 7, 1970, pp 24-25

of chambers. After the salt water has been freed of solid particles by filtration, it is subjected to electrodialysis in the apparatus

1/2 020 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--DYNAMIC DISTRIBUTION OF INFORMATION DURING ITS INPUT INTO COMPUTER CORE -U-

AUTHOR--MAMONTOV, O.V.

COUNTRY OF INFO--USSR

SOURCE--NAUCHNO TEKHNICHESKAYA INFORMATSIYA, 1970, SERIES 2, NR 1, PP 53-54

DATE PUBLISHED-------70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--INFORMATION STORAGE AND RETRIEVAL, COMPUTER MEMORY, COMPUTER INPUT UNIT, MEMORY CORE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1084 STEP NO--UR/0447/70/000/001/0053/0054

CIRC ACCESSION NO--AP0118234

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 020

CIRC ACCESSION NO--AP0118234

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE IS DESCRIBED ON A DEVICE FOR DYNAMIC DISTRIBUTION OF INFORMATION AMONG THE APPROPRIATE PARTS OF CORE LOCATIONS DEPENDING ON SPECIFIED CHARACTERISTICS. A PECULIAR FEATURE OF THE CIRCUIT CONTROLLING THE READING IN IS THAT IN CONSTRUCTING THE CURRENT ADDRESS IT TAKES MEASURES TO PREVENT AN EVENTUAL OVERLOADING OF THE SUBARRAY IN QUESTION.

UNCLASSIFIED

UDC 612.014.3:612.6.014.424 4

USSR

MAMONTOV, S. G. and IVANOVA, L. N. Chair of General Biology, II Moscow Medical Institute imeni N. I. Pirogov

"The Effect of a Low-Frequency Electric Field on Cell Reproduction in Mice Tissues"

Moscow, Byulleten Eksperimentalnoy Biologii i Meditsiny, Vol 71, No 2, Feb 71, pp 95-96

Abstract: Colcemide (Omain) was intraperitoneally injected into male mice, which were subjected to an electric field with a frequency of 50 Hz. The number of blocked mitoses was counted in the corneal epithelium, liver, and proximal regions of convoluted renal tubules. In the renal tubules no significant shifts in the number of mitoses were observed, but the mitotic index in the corneal epithelium was 2.2 times that in the control, and the mitotic index in the liver was 2.2 times that in the control, and the mitotic index in the liver was 3.4 times that in the control. The data indicate that the passage of cells through the G_2-period is accelerated by application of a low-frequency electric field.

1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--USE OF DIFFERENTIAL THERMAL ANALYSIS TO STUDY THE DISTURBANCE OF A QUARTZ CRYSTAL LATTICE DURING PULVERIZATION --U--

AUTHOR-(03)-BUTT, YU.M., VOROBYEVA, M.A., MAMONTOV, V.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. VSES. KHIM. OBSHCHEST. 1970, 15(2), 228-30

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY, PHYSICS

TOPIC TAGS--CRYSTAL LATTICE, MATERIAL CRUSHING, COMMINUTION, QUARTZ CRYSTAL, METAL BALL, GRINDING MACHINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1048 STEP NO--UR/0063/70/015/002/0228/0230

CIRC ACCESSION NO--AP0138070

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138070

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERMOGRAMS ARE REPORTED FOR POWD. QUARTZ WITH ADMIXTS. OF POWD. FE AFTER VARIOUS MODES OF PULVERIZATION IN VARIOUS MILLS. THE THERMOGRAPHIC METHOD WAS ABLE TO DETECT THE DISTURBANCES IN CRYSTAL LATTICE OF QUARTZ IN SUCH SYSTEMS CAUSED BY MECH. DEFORMATION IN MILLING. THE LARGEST DEFORMATIONS WERE FOUND AFTER TREATMENT IN A VIBRATORY OR BALL MILL, THE MATERIAL ATTAINING A SP. SURFACE OF SIMILAR TO 3000 CM PRIME2 -G. FACILITY: MOSK. KHIM. TEKHNOL. INST. IM. MENDELEEVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--STEREOCHEMISTRY OF HETEROCYCLES. IV. 2,SUBSTITUTED 5,ALKYL,1,3,DITHIANES -U-

AUTHOR-(05)-VOSTROVA, L.N., SONCHINSKAYA, V.N., BOGATSKAYA, Z.O., MAMONTOV, V.P., DAVIDENKO, T.I.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (4), 462-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--STEREOCHEMISTRY, HETEROCYCLIC SULFUR COMPOUND, ORGANIC SYNTHESIS, BROMINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0935 STEP NO--UR/0409/70/000/004/0462/0465

CIRC ACCESSION NO--AP0134662

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134662

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY THE METHOD OF BOGATSKAYA (1962) R (R, B.P., D PRIME20, N PRIME20 WERE SYNTHESIZED CH SUB2 BRCHRCH SUB2 R (R, B.P., D PRIME20, N PRIME20 SUBD, AND PERCENT YIELD GIVEN): SHOWN ON MICROFICHE. FACILITY: ODESS. GOS. UNIV. IM. MECHNIKOVA, ODESSA, USSR.

UNCLASSIFIED

UDC 629.122/.123.073

USSR

MAMONTOV, YU. N.

"Singularities in Standardizing the Stability of River-Sea Ships"

Leningrad, Sudostroyeniye, No 11, Nov 70, pp 11-12

Abstract: With the aim of evaluating the possibility of utilizing for river-sea ships the method of calculating tossing recommended by the USSR Register for Maritime Ships, specialists of the Leningrad Institute of Water Transport Engineers analyzed the results of experiments under agitated sea conditions. The stability of river-sea ships has been standardized on the basis of prolonged operation of maritime ships of similar dimensions. 2 tables.

1/1

UDC 632.4:633.11:582.285.2(47+47)

USSR

LESOVOY, M. P., FEDOROVA, V. A., SHKOLENKO, V. I. TERESHCHENKO, B. A., SHOPINA, V, V., IBRAGIMOV, G. R., AGAR-EDOV, S. A., YERGOZOVA, N. I., MAKONTOVA, A. N., PERESYPKIN, V. F., BOYKO, Yu. I., SHAVERINA, Z. A., CHUMAKOV, A. Ye., YANENKO, Z. I., PAYCHADZE, L. V., and EL'CHIBAYEV, A. A., All-Union Institute of Plant Protection, Ukrainian Institute of Plant Protection, Ukrainian Agricultural Academy, Azerbaydzhan Institute of Agriculture, Central Asian Institute of Plant Pathology, and Kazan' Institute of Plant Protection, Georgian Institute of Plant Pathology

"Race Formation in Puccinia triticina Eriks. and P. striiformis West. in the USSR"

Leningrad, Mikologiya i Fitopatologiya, No 6, 1972, pp 428-434

Abstract: Study of the causative agents of orange leaf and stripe rusts of wheat in different parts of the Soviet Union and some other European countries showed that, despite the great variety of races, only a few are responsible for epiphytotics. The main races are fairly constant from year to year. This stabilization is due to the fact that more than 90% of all the regionalized wheat varieties in the USSR are susceptible to all races of the pathogens. The racial composition of the pathogens in the USSR is similar to that occurring elsewhere in Europe because of the exchange of original forms and use of the

1/2

USSR

(12)

LESOVOY, M. P., et al., Mikologiya i Fitopatologiya, No 6, 1972, pp 428-434

same components in breeding wheat varieties. The appearance of new races and biotypes and changes in their virulence are the result of mutation, heterokaryosis, resistant varieties, and sexual hybridization.

2/2

USSR

UDC 547.313.2+547.222

AFANAS'YEV, I. B., MAMONTOVA, I. V., and SAMOKHVALOV, G. I., All-Union Scientific Vitamin Research Institute

"Investigation of the Reactions of Free Alkyl Radicals in Liquid Phase by the Method of Competitive Addition. VI. Reactions of sec-Octyl Radicals With Chloromethanes"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 7, No 3, Mar 71, pp 457-463

Abstract: The method of competitive addition of free alkyl radicals was applied to the reactions of 4-octyl radical generated by the reaction of ethyl iodide with hexene-1 at 100° in the liquid phase. Relative constants for the rate of splitting the hydrogen atom (k_7/k_3) from methylene chloride (0.0062), chloroform (0.24), ethyl iodide (0.019), and hexene-1 (0.013) were determined, as well as the rates of chlorine (k_8/k_3) being split off from chloroform (0.055) and carbon tetrachloride (23.3). The k_3 unit represents the constant of the rate of the iodine atom splitting from ethyl iodide. On the basis of the data obtained the constants of chain transfer in the reactions of above compounds with hexene-1 have been computed.

1/1

USSR UDC 616.928.8-022.39:636.2]-036.21-078.7

SOMOV, G. P., SHUBIN, F. N., KIR'YANOV, Ye. A., and MAMONTOVA, R. M., Vladivostok Institute of Epidemiology and Microbiology, and Primorskiy Kray Veterinary-Bacteriological Laboratory

"Serological Examination of Cattle as a Method for Detecting Natural Foci of Tsutsugamushi Fever"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973, pp 63-66

Abstract: Blood serum of 586 head of cattle from southern Primorskiy Kray was tested for the presence of Rickettsia tsutsugamushi antigen to determine the usefulness of serological data as indexes describing natural tsutsugamushi fever foci, and calves were subjected to various experiments to identify their role in natural circulation of the pathogen. Antibody production dynamics of cattle in the spring-fall period coincided with those of healthy humans residing in the same areas, thus indicating that serological data are valid for determining the boundaries of natural foci. In the first experiment calves were infected subcutaneously and intravenously with R. tsutsugamushi. While intravenous injection did not cause rickettsemia and lymphadenites to appear, with subcutaneous injection infiltrates, lymphadenites, and rickettsemia arose within the 1st 10 days, for the most part localized about the area of injection.

USSR

SOMOV, G. P., et al., Zhurnal Mikrobiologii, Epedemiologii, i Immunobiologii, No 2, 1973, pp 63-66

Rickettsemia lasted 7-10 days and arose earlier in local lymph nodes than at those located opposite the point of injection. Responses were even more rapid when the pathogen was injected directly into lymph nodes. These results suggest that in nature the pathogen undergoes initial reproduction in the skin and in lymph nodes close to the point of infection. In all cases specific complement-fixing antibodies were detected by the 7th day, maximized on the 14th, and were practically absent after 2 months. In the next experiment larvae of Trombiculae ticks were allowed to feed on calves to determine whether or not ticks might transmit the disease to cattle. L. pavlovskyi, N. japonica, and N. mitamurai larvae did manage to attach and feed. Since these ticks have been shown to be natural carriers of the disease, it is most probable that these species do transmit the disease to cattle. Whether or not uninfected larvae can become infected by feeding on infected cattle remains to be studied.

2/2

USSR UDC 521.4:[629.76+629.78]

MAMOTKO, Z. N., OTPUSHCHENKO, A. Z., SHATROVSKIY, L. I.

"Certain Applications of the Numerical Solution of Variational Problems in Flight Dynamics"

V sb. Mat. metody modelir. v kosmich. issled. (Mathematical Methods of Modeling in Space Research -- Collection of Works), Moscow, "Nauka", 1971, pp 159-176 (from RZh-62. Issledovaniye kosmicheskogo prostranstva, No. 4, Apr 72, Abstract No. 4.62.293)

Translation: A group of applications of the practical solution of variational problems by the method of improving controlling functions is presented. Among these applications are: replacement of the initial problem by the reciprocal problem; transformation of the type of bonds translating limitations in the region for the selection of phase coordinates of the system into restrictions on the region for the selection of the controlling functions; separation of the variational problem into subproblems and the so-called sliding interval method. The application of certain of these examples is illustrated in the problem of deriving the useful load to a circular orbit of maximum height. 15 ref. Resume.

1/1

USSR

UDC 629.78.015.017.2

MAMOTKO, Z. N., SHATROVSKIY, L. I.

"Construction of a Mathematical Model of Controlled Motion of a Flight Vehicle Under Non-deterministic Conditions"

Mat. Metody Modelir. v Kosmich. Issled. [Mathematical Methods of Modeling in Space Research -- Collection of Works], Moscow, Nauka Press, 1971, pp 177-188, (Translated from Referativnyy Zhurnal, Raketostroyeniye, No 4, 1972, Abstract No 4.41.118 from the Resume).

Translation: A model (M) of the synthesis of control of the flight of a vehicle is constructed on the basis of the method of improvement of control functions. The M of control flight is constructed of three particular M: the M of vehicle motion, the M of production of information on the flight and the M of the control system. The introduction of errors and perturbing factors is modeled in each of the M, both random quantity and random-function types. The M is constructed in order to compare vehicles in the stages of their planning under conditions imitating the conditions of their future use as closely as possible.

1/1

USSR

MAMOTKO, Z. N., SHATROVSKIY, L. I.

"The Construction of a Mathematical Model of Controlled Motion of a Flight Vehicle Under Nondeterministic Conditions"

Mat. Metody Modelir. v Kosmich. Issled. [Mathematical Modeling Methods in Space Research -- Collection of Works], Moscow, Nauka Press, 1971, pp 177-188, (Translated from Referativnyy Zhurnal, Mekhanika, No 4, 1972, Abstract No 4 B253 by the author's).

Translation: A model is constructed of synthesis of control of the flight of a vehicle, based on the method of improvement of control functions. The model of controlled flight is constructed of three particular models: a model of motion of the apparatus, a model of production of information concerning the flight and a model of the control system. The behavior of errors and perturbing factors, both of the random-quantity and of the random-function type, is modeled in each of these models. The model is constructed in order to compare apparatus during the planning stage under conditions as close as possible to the conditions of their future use.

1/1

USSR UDC 541.183

BANINA, V. A., VOZMILOVA, L. N., MAMONTSOV, A. P., and FOMIN, G. G.

"Adsorption of Organic Solvents on the Surface of Gallium Arsenide"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 8, Aug 71, p 2098

Translation: The authors investigated the adsorption of acetone, benzene, carbon tetrachloride, methyl alcohol and ethyl alcohol on the surface of gallium arsenide. Organic solvents tagged with carbon-14 were used in the work. The counting apparatus did not permit counting the number of adsorbed molecules and therefore the ratio $N:S^m$ was calculated, which is proportional to the number of adsorbed molecules. Here N is the sample count (cpm) after treatment with the solvent and drying for two hours at room temperature and S^m is the calculated specific radioactivity of one gram molecule of solvent.

The results show that all investigated solvents are adsorbed on the surface of gallium arsenide. The degree of adsorption decreases in the order acetone > benzene > ethanol > methanol > carbon tetrachloride, in relative units: 37:15:7:6:1.

USSR

BANINA, V. A., et al., Zhurnal Fizicheskoy Khimii, Vol 45, No 8, Aug 71, p 2098

A study of desorption of organic solvents from the surface of gallium arsenide on heating showed that all investigated solvents with the exception of carbon tetrachloride are fairly strongly held to the surface of gallium arsenide and are removed only with difficulty on heating. The hypothesis is advanced that bonding of the organic molecule to the surface of the semiconductor is due to donor-acceptor interaction.

2/2

USSR UDC 621.371.029.55

MAMRUKOV, A. P. and KISELEV, V. A.

"Time Changes of Applicable Frequencies in Subauroral Shortwave Radio Lines"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 1 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 1--collection of works) "Nauka," 1972 pp 468-472 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A347)

Translation: It is shown that the nature of the time changes in standard, prognostic, and operational signal of maximum applicability (SMA) remains the same, but that the values of these quantities are considerably different in individual periods. The best correspondence is observed in winter noon and summer midnight; the worst, in the spring noon and in spring and winter midnights. These differences are determined by the peculiarities of the ionosphere in subauroral zones and are not taken into account in the SMA prognosis. Two illustrations, bibliography of six. A. L.

1/1

Devices

USSR UDC 621.327.534.15.032.43(088.8)

MAMSUROV, A.KH., OSKOLKOV, I.N., SAZHIN, L.I., TROFIMOV, V.V., YUDOVSKIY, B.Z.
[~~Vses. n.-i.~~ kinofotoin-t--All-Union Scientific-Research Camera Institute]

"Device For Ignition Of Xenon Lamps"

USSR Author's Certificate No 311430, filed 13 Apr 70, published 6 Oct 71 (from RZh:Elektrotekhnika i energetika, No 5, May 1972, Abstract No 5V190P)

Translation: A device is proposed for ignition of xenon lamps, which contains a rectifier made with a thyristor, with a control circuit consisting of a RC network [tsepochka] with a switching diode. The rectifier is supplied from a supplementary winding of the power transformer of the rectifier. In order to accomplish control of the process of ignition of the lamps, an increase of their lifetime, and a decrease of the overall size of the device, the rectifier is connected in series with a supplementary winding of the transformer in the ignition circuit [tsep'] of the xenon lamp. For supply of the control circuit an auxiliary rectifier is used, connected to the power transformer, at the output of which the RC network is connected. 1 ill. Ye.I. Afanas'yeva.

1/1

USSR

UDC: 541.124/.128

RTSKHILADZE, V. G., MOISTSRAPISHVILI, A. V., CHITORELIDZE, G. M., MAMULASHVILI, M. P., ABASHIDZE, T. D.

"Study of the Possibility of Producing Epitaxial Gallium Arsenide by the Method of Chemical Transport Reactions in a Stream of Argon"

Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 67, No 3, 1972, pp 637-640.

Abstract: This article presents a study of chemical-transport deposition of gallium arsenide films, with the usual hydrogen transport medium replaced by the inert gas argon. The reaction at the source zone is

$$AsCl_{3(g)} + 3GaAs_{(s)} \rightleftarrows 3GaCl_{(g)} + As_{4(g)},$$

and in the deposition zone

$$6GaCl_{(g)} + As_{4(g)} \rightleftarrows GaAs_{(s)} + 2GaCl_{3(g)}.$$

The reaction tube was heated by a resistance furnace with two independent heaters. Temperature was maintained with an accuracy of 0.5°C in each zone. The study showed that the main factor influencing etching of the

USSR

RTSKHILADZE, V. G., et al., Soobshcheniya Akademii Nauk Gruzinskoy SSR
Vol 67, No 3, 1972, pp 637-630

substrates and decreasing growth rate at high stream velocities was the increase in the quantity of $AsCl_3$ present at the source zone. The growth rate as a function of argon stream velocity shows a maximum at about 70 cm^3/min, the subsequent decrease resulting from the fact that, due to the high difference in temperature drop between the two zones, a portion of the gallium arsenide formed is deposited on the walls of the reaction vessel before reaching the substrate zone. The quality of the epitaxial layer produced increases with increasing deposition temperature up to 710-730°C. The films produced were monocrystalline, oriented in the same direction as the substrate.

USSR

UDC 541.12.034.6:621.791.85

OL'SHANSKIY, N. A., MAMUTOV, Ye. L.

"Calculation of Vapor Pressure in the Fusion Channel During Cathode Ray Welding of Various Materials"

Kishinev, Elektronnaya Obrabotka Materialov, No 6 (36), 1970, pp 3-8.

ABSTRACT: A comparative quantitative evaluation of vapor pressures in the fusion channel during cathode ray welding of aluminum and copper is presented. It is demonstrated that during welding of copper, the pressure drop is higher than for aluminum. The pressure in the channel is higher, the higher the atomic weight and M/T ratio of the material welded. This may be one reason for the intensive splashing and instability of welded seams produced by cathode ray welding of thick copper products. A decrease in ΔP by corresponding technological measures or variations in welding parameters can increase the stability of deep seams.

USSR

UDC 541.12.034.6.001.5:621.
.791.85

ADLER, Yu. P., and MAMUTOV, Ye. L., Moscow

"The Effect of Vapors on the Melting Depth by Electron-Beam Welding"

Kishinev, Elektronnaya Obrabotka Materialov, No. 3 (39), 1971, pp 15—18

Abstract : Characteristics of the electron-beam welding method were experimentally investigated on specimens (35x60x100 mm) of the alloy AMr6 by melting them in one operation with an electron-beam according to specially selected systems. A mathematical model of the welding process was established on the basis of the linear part of the Taylor series. The effect of the vapor cloud on the melting depth was determined and analyzed. Recommendations are given for electron-beam welding of articles with grooves and deep slits, the acceleration of the vapor evacuation from the welding zone, and the decrease of the electron-beam energy losses. One illustr., 3 tables, 1 formula, 6 biblio. refs.
1/1

1/2 008 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--CONSTRUCTION OF SOLVABLE EXTENSIONS IN A PARALLELEPIPED FOR LINEAR DIFFERENTIAL OPERATORS WITH CONSTANT COEFFICIENTS -U-

AUTHOR--MAMYAN, A.KH.

COUNTRY OF INFO--USSR

SOURCE--DIFFERENTSIAL'NYE URAVNENIIA, VOL. 6, FEB. 1970, P. 358-370

DATE PUBLISHED--------70

SUBJECT AREAS--MATHEMATICAL SCIENCES

TOPIC TAGS--DIFFERENTIAL OPERATOR, CONSTANT COEFFICIENT, BOUNDARY VALUE PROBLEM, LINEAR DIFFERENTIAL EQUATION, PARTIAL DIFFERENTIAL EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1980/0145 STEP NO--UR/0376/70/006/000/0358/0370

CIRC ACCESSION NO--AP0046437

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0048437

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONSTRUCTION OF A CORRECT BOUNDARY VALUE PROBLEM IN A PARALLELPIPED FOR AN ARBITRARY LINEAR PARTIAL DIFFERENTIAL EQUATION WITH CONSTANT COEFFICIENTS. EXPANSIONS IN RIESZ BASES CONSTRUCTED FROM AN OPERATOR BY A CERTAIN SPECIAL METHOD ARE USED FOR THIS PURPOSE. SIMULTANEOUSLY, AN ESTIMATE IS MADE OF THE FREEDOM OF CHOICE OF SUCH BASES, AND A SIMPLE METHOD IS DESCRIBED WHICH MAKES IT POSSIBLE TO CONSTRUCT A CORRECT BOUNDARY VALUE PROBLEM FOR AN ARBITRARY REGION, IF THIS PROBLEM IS CONSTRUCTED FOR A CERTAIN CONVOLUTE REGION.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201920008-7"

USSR UDC 531.787

VARDANYAN, V. R., STEPANYAN, A. A., MAMYAN, S. Z., OGANESYAN, M. G., and GAMBARYAN, A. A.

"New Combination Sensor for Registration of the Pressure Shock Waves in Air"

Nauch. Tr. Yerevan. Politekhn. In-ta [Scientific Works of the Yerevan Polytechnic Institute], 1972, Vol 36, No 4, p 1, pp 152-158 (from Referativnyy Zhurnal, No 10, Oct 72. 32. Metrologiya i Izmeritel'naya Tekhnika. Single Issue. Abstract No 10.32.714)

Translation: A new combination altitude sensor is described. It has a movable electrode (membrane) and an immovable electrode located parallel to it. The capacitance originates between the upper movable membrane, on which acts the shock wave, and the plane immovable electrode, the gap between which comprises fractions of a millimeter. Five illustrations, five bibliographical references.

1/1

AP9048860

UR 0431

PRIMARY SOURCE: Izvestiya, AN ArmSSR. Fizika, Vol 4, Nr 1, pp 19-24

THE MAGNETIZATION REVERSAL PROCESS OF INVERSION FILMS NEAR THE AXIS OF HARD MAGNETIZATION DIRECTION

S. A. POGOSSIAN, Ya. M. POGOSSIAN, V. A. MAMYAN

This papes deals with the electron microscopical investigations of some particularities of a magnetization reversal process of inversion permalloy films near the axis of hard magnetization direction. It is shown that coagulation of magnetization vector near „hard" axis which is typical for process of magnetization reversal of inversion films cannot be only due to Neel's walls formed at the breaking into narrow domains, the magnetization ripple being taken into account. It is pointed out by the fact of less and less deviation of magnetization vector from the direction of initial saturation field after saturation near the direction of „hard" axis with decreasing of the investigated anisotropy of the films.

1607 HW 1606

Acc. Nr.: AP0046764 Ref. Code: UR0125

USSR UDC 621.791.927:669.35.6

ILYUSHENKO, V. M., SEDOV, V. YE., MANYKIN, E. T., YUGA, A. I.

"Antifriction Properties and Wear Resistance of Hard-Faced Tin-Lead Bronze"

Kiev, Avtomaticheskaya Svarka (Automatic Welding), No 1, 1970, pp 28-31 (from Avtomaticheskaya Svarka, No 1, 1970, p 79)

Translation: This article contains a study of the wear resistance and coefficient of friction of hard-faced tin-lead bronze. The optimal composition of the antifriction alloy for manufacturing bimetal highly loaded bearings is selected. There is 1 table, 5 illustrations and a 5-entry bibliography.

1/ Reel/Frame 19790068 Cl 18

USSR UDC 666.76.004.1

MAMYKIN, P. S., and STRELOV, K. K., Ural Polytechnic Institute imeni S. M. Kirov, Eastern Institute of Refractory Materials

"Some Technological Measures for Increasing the Effectiveness of Refractory Materials"

Moscow, Ogneupory, No 12, 1972, pp 37-40

Abstract: The authors present a general review of properties which refractory materials functioning under extreme conditions should possess. Thermal stresses of refractory materials should be minimal under a high-temperature environment. The thermal stresses are determined mainly by the elasticity modulus, which is very low in fiber refractories. Fiber refractories can be substituted for approximately 20% of the refractory materials used in industry. The effectiveness of refractory materials can also be increased by improving the output of manual work need to repair and construct new blast furnaces. This improvement can be achieved by using large refractory blocks made of grainy refractory materials and fibers and strengthened by 0.01-mm heat-resistant wire. New cementing materials, such as calcium aluminates, alumophosphates, silicates, and polymers with an oxychloride basis should be used in the production of large refractory blocks. Since more than 50% of the refractory materials are subjected to thermal, mechanical, and chemical

USSR

MAMYKIN, P. S., and STRELOV, K. K., Ogneupory, No 12, 1972, pp 37-40

forces, they should be selected on the consideration of reactions taking place between the refractory and the above forces. Special attention should be paid to the reaction of slag with the refractory lining in blast furnaces (three types of reactions are discussed). Only after actual experimentation with a given refractory material can a decision be made as to which material is best suited for a given task. Cooling of the refractory lining by external means should also be employed after a careful study of the temperature requirements.

2/2

USSR UDC: 666.764.13:66.063.5

KASHCHEYEV, I. D., BABKIN, V. G., MANYKIN, P. S. and TSAREVSKIY, B. V., Ural Polytechnic Institute imeni S. M. Kirov

"Kinetic Characteristics of Wetting and Impregnation of Magnesium Oxide With Fayalite"

Moscow, Ogneupory, No 4, Apr 72, pp 45-48

Abstract: A study has been made of the effect of saturating electrically molten magnesium oxide with a soluble salt of chromium acetate (7.50 g per 1 liter H_2O) on the capillary impregnation rate and spreading of fayalite over the surface of MgO under isothermal conditions. With increasing temperature, the impregnation rate increases. In specimens treated with a chromium acetate solution the impregnation rate drops to one half of the initial rate. Applying a chromium salt film to electrically molten MgO plates reduces the initial spreading rate from 400 and 700 deg/sec to 95 and 180 deg/sec at 1250 and 1300°C, respectively. To determine the impregnation rate, use was made of a method in which the movement front of the impregnating liquid is continuously fixed by variations in the resistivity of the specimen. The wetting rate was evaluated by changes in the angle of flow of the drop in time. (4 illustrations, 12 bibliographic references)

1/1

1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--EFFECT OF BORON OXIDE ON THE ELECTRICAL CONDUCTIVITY OF POLYCRYSTALLINE MAGNESIUM OXIDE -U-

AUTHOR-(02)-MAMYKIN, P.S., DROZDOVA, T.A.

COUNTRY OF INFO--USSR

SOURCE--OGNEUPORY 1970, 35(2), 44-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MAGNESIUM OXIDE, ELECTRIC CONDUCTIVITY, THERMAL ANALYSIS, BORON OXIDE, ENDOTHERMIC EFFECT, POLYCRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0892 STEP NO--UR/0131/70/035/002/0044/0046

CIRC ACCESSION NO--AP0118061

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118061

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELEC. COND. AT 100-1600DEGREES OF A MIXT. OF MGO (PREHEATED AT 1400DEGREES) AND 0.5-5 WT. PERCENT B SUB2 O SUB3 WAS DETD. AND COMPARED WITH THE ELEC. COND. OF POLYCRYST. MGO AND OF MGO CRYSTALS, TAKEN FROM A BLOCK OF ELEC. MELTED MGO. THE ELEC. COND. OF SINGLE CRYSTAL AND POLYCRYST. MGO INCREASES WITH ICNREASING TEMP. BY ADDN. OF B SUB2 O SUB3, THE ELEC. COND. OF MGO INCREASES BY NEARLY A FACTOR OF 2 AS A CONSEQUENCE OF THE MELTING OF 3MGO.B SUB2 O SUB3 WHICH IS FORMED DURING SINTERING AT 1366DEGREES. THE PRESENCE OF 3MGO.B SUB2 O SUB3 AFTER FIRING WAS DETD. THE FORMATION OF A FLUID PHASE WAS ASCERTAIN BY DTA. AN ENDOTHERMIC EFFECT WAS OBSERVED AT 1370DEGREES WHICH CORRESPONDS TO THE MELTING OF MG ORTHOBORATE.

FACILITY: URAL. POLITEKH. INST. IM. KIROVA, SVERDLOVSK, USSR.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--THERMAL TRANSFORAMTIONS DURING THE INTERACTION OF GROG WITH ORTHOPHOSPHORIC ACID -U-
AUTHOR-(03)-ZAMYATIN, S.R., MAMYKIN, P.S., KNYAZEVA, T.P.

COUNTRY OF INFO--USSR

SOURCE--OGNEUPORY 1970, 35(2), 39-43

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PHOSPHORIC ACID, CERAMIC MATERIAL, THERMAL EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0891 STEP NO--UR/0131/70/035/002/0039/0043

CIRC ACCESSION NO--AP0118060
UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118060

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FINELY POWD. GROG, CONSISTING OF MULLITE, QUARTZ, AND CRISTOBALITE, WAS MIXED WITH 35PERCENT H SUB3 PO SUB4 IN A MOLAR RATIO AL SUB2 O SUB3:P SUB2 O SUB5 EQUALS 1.1. THE MIXT. WAS HEATED TO 400DEGREES FOR 1 HR AND MILLED. FROM THE POWDER TABLETS WERE PRESSED WHICH WERE HEATED AT 500, 600, 800, 1000, 1200, AND 1400DEGREES FOR 2 HR. THE PHASE COMPN. OF THE HEATED SAMPLES WAS DETD. BY X RAY ANAL. BELOW 300DEGREES, GROG AND H SUB3 PO SUB4 DO NOT INTERRACT. BEGINNING AT 300DEGREES THE LOW TEMP. FORM OF SIO SUB2. P SUB2 O SUB5 IS FORMED, BY INTERACTION OF THE ACID WITH THE GLASSY PHASE OF THE GROG, WHILE ITS OTHER COMPONENTS, QUARTZ AND CRISTOBALITE, REMAIN UNALTERED. AT 300-800DEGREES A CRYSTN. OF PHOSPHOSILICATES OF THE TYPE SIO SUB2. P SUB2 O SUB5 TAKES PLACE. AT TEMP. GREATER THAN 800DEGREES THE PHOSPHOSILICATES DISSOLVE AND AT 1030DEGREES THEY TRANSFER$ INTO THE MELT. HIGH TEMP. FORM THAT GREATER THAN 1200DEGREES TRANSFERS INTO THE MELT. AT 700-1000DEGREES THE LARGE AMT. OF FLUID PHASE, CAUSED BY DISSOLN. OF CRYST. SIO SUB2. P SUB2 O SUB5 AND MULLITE IN THE GLASSY PHASE, LOWERS THE TEMP. OF BEGINNING DEFORMATION UNDER A LOAD AND INCREASES THE SHRINKAGE. AT 1000DEGREES THE DEFORMATION IS STOPPED BY FORMATION OF THE NEW CRYST. PHASE ALPO SUB4. AT 1200DEGREES ALPO SUB4 CRYSTALLIZES IN THE CRISTOBALITE FORM. AFTER HEATING AT 1400DEGREES THE MIXT. CONTAINS ALPO SUB4, CRISTOBALITE, MULLITE, AND QUARTZ. THE MIXT. CAN BE USED AS MORTAR, THAT CAN BE SINTERED AT LOW TEMP. FACILITY: KUZNETSK. MET. KOMB., KUZNETSK, USSR.

UNCLASSIFIED

Acc. Nr: AP0047362 Ref. Code: UR0589

PRIMARY SOURCE: Vestnik Khirurgii imeni I. I. Grekova, 1970, Vol 104, Nr 1, pp 87-89

SOME CAUSES OF LATE DIAGNOSIS IN CANCER OF THE COLON

By S. N. Marukin and A. M. Klunichenko

In the article the diagnostic errors in 106 operated patients with carcinoma of the colon (excluding the rectum), observed in surgical departments of the city hospital and the city oncological dispensary, are analysed.

1/1

REEL/FRAME
13790888

2

USSR UDC;620.013.4

ROMANUSHKINA, A. YE. and MAMYLIKHINA, M. V.

"Titanium as a Corrosion Resistant Material for Equipment for the Production of α- and β-Dichlorohydrins of Glycerine"

Moscow, Zashchita Metallov, Vol 10, No 1, Jan-Feb 74, pp 39-40

Abstract: Corrosion tests in the technological media used in the production of α- and β-dichlorohydrins of glycerine showed that titanium is the best structural material for this equipment. Corrosion rates were calculated on the basis of weight loss. Specimens of titanium equipment utilized for 3-3.5 years showed practically no corrosive damage. Specimens of titanium-aluminum-zirconium alloy containing 2-3% aluminum and not over 3% zirconium also showed very little damage after 2.5-3 years of testing.

1/1

The method is simpler than and superior to earlier aspiration and compression methods. In a study using 67 cadavers, it was found that the hematopoietic cells remain unchanged for 30 hours when the resected bones are properly storied and treated.

1/1

USSR UDC 615.361.018.46.012.6

SPIZHARSKAYA, L. M., and MAMYSHEVA, T. K., Leningrad Scientific Research Institute of Hematology and Blood Transfusion

"Preparation of Cadaver Bone Marrow from Resected Bones"

Moscow, Problemy Gematologii i Perelivaniya Krovi, Vol 15, No 7, Jul 70, pp 19-20

Abstract: A new method for obtaining clinically sterile bone marrow is described. The method is simpler than and superior to penicillin sanitization and sedimentation

USSR

UDC 621.382.2.011.222

MAMZELEV, I. A., KOTIKOV, V. I.

"Computation of the Time for Establishing a Voltage at the Domain in a Gunn Device"

Tr. uchebn. in-tov svyazi, M-vo svyazi SSSR (Works of Educational Institutes of Communication. Ministry of Communications USSR), 1970, Issue 52, pp 177-179 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B176)

Translation: A computation is made of the time for establishing a voltage at the domain in a Gunn device. It is noted that the computed magnitude of the time for a device with a length of the active region of 100 micrometers, a carrier concentration of $5 \cdot 10^{14}$ cm^{-3}, and a bias of 70 v, amounts to 0.1 nsec, which satisfactorily agrees with experimental results. A Ye.

1/1

MANAFOV, A.G.

Econ

RECENT ACTIVITIES OF AZERBAYDZHAN ECONOMICS INSTITUTE CHRONICLED

[Article by A. A. Makhmudov and A. G. Manafov; Moscow, Izvestiya Akademii Nauk SSSR: Seriya Ekonomicheskaya, Russian, No 2, 1972, pp 149-152]

In recent years a central place in the work of the Institute of Economics of the Academy of Sciences of the Azerbaydzhan SSR has been occupied by the elaboration of a series of problems relating to the joint study of theoretical problems in the political economy of socialism, to increasing the effectiveness of social production, and to the implementation of economic policy under present conditions. Thus in 1970 the Institute's collective worked on such important problems as: increasing the economic effectiveness of production capital and of capital investment in new equipment; the general plan for the distribution of the productive forces of the USSR for the period up to 1980; the scientific principles of cost accounting and the economic incentives in the various elements of the national economy; and the economic patterns in the development of socialism and in the transition to communism.

Work was completed on the following aforementioned topics in 1970: "Analysis and Measures to Increasing the Economic Effectiveness of Capital Investment in the Republic's National Economy"; "Forecasting the Work Force and Its Most Effective Deployment Over an Extended Period"; "Ways of Increasing the Economic Growth Level in the Western Part of the Azerbaydzhan SSR"; "Investigation of Various Economic Incentives for the Development of Production in Various Branches of Industry in the Azerbaydzhan SSR"; "Economic Effectiveness in the Intensification of Agricultural Production"; "Structure of Industrial Production and Ways of Improving It"; "Socio-economic Changes in Soviet Azerbaydzhan Villages"; "The History of the National Economy of Azerbaydzhan in the 19th and Early 20th Centuries"; and "History of the Azerbaydzhan National Economy in the Soviet Period."

Articles and other summaries the findings of the Institute's scientific theme findings, substantiated proposals and recommendations for implementing

- 42 -

ZMM 55-73
No. 369 17 March 1972 Translations on USSR Economic Affairs

USSR

UDC 621.382.002

FEDOTOV, YA.A., MADOYAN, S.G., AVETISYAN, G.KH., MANACHAROV, V.D., REPNIKOV, G.I.

"Properties Of $^{+}$Ge-nGaAs Structure Prepared By The Liquid Epitaxy Method"

Elektron.tekhnika. Nauch.-tekhn.sb. Poluprovodn. pribory (Electronic Technics. Scientific-Technical Collection. Semiconductor Devices), 1971, Issue 4(61), pp 31-38 (from RZh:Elektronika i yeye primeneniye, No 5, May 1972, Abstract No 5B379)

Translation: The optimum conditions were determined for the growth of high-quality layers of Ge on GaAs by the liquid epitaxy method (from a solution in Ge). The optimum supercooling of the solution for preparing ideal layers was calculated. (It was found to be $\sim 15^{\circ}$ C.) The calculation was confirmed by experiment. With supercoolings above 50° C the perfection of the layers sharply deteriorated. Heterojunctions of p^{+}Ge--nGaAs were prepared without intermediate layers of the solid solution Ge + GaAs and without a "false" junction at the interface resulting from diffusion of arsenic in the Ge. 9 ref. Ye.G.

1/1

USSR UDC 535.376:621.382

POPOV, Yu. V., SHILOV, A. F., MANAK, I. S., KOBAK, I. A., FIGURIN, V. A.

"Nonuniformity of Glow and Percentage Modulation Lengthwise of P-N Junction in GaAs Dicdes"

Vestn. Belorus. un-ta (Bulletin of Belorussian University), 1970, Series 1, No 3, pp 63-64 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B232)

Translation: The results are presented of a study of the nonuniformity of glow and percentage modulation of a p-n junction in GaAs diodes, which can be accounted for by the nonuniformity of distribution of impurities. 2 ill. 4 ref. Summary.

1/1

USSR

UDC 615.373.39:598.127.072

MANAKHILOV, R., State Institute for the Control of Drugs, Sofia

"Titration of Antivenom Serum with of Standard Serum and by Ipsen's Method"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971, pp 125-127

Abstract: In Ipsen's method, the test serum is used in just two concentrations, and the amount of the venom neutralized by 1 ml of the serum is calculated. When the test serum is titrated against the standard serum, both are used in five different concentrations, and the power of 1 antitoxic unit can be determined. In experiments performed on mice with the use of Vipera ammodytes venom, both methods yielded essentially identical results with regard to both the prophylactic and therapeutic effects of the serum. However, the method with the standard serum also established that 1 AU neutralizes 0.0432 mg of the venom. Since the LD_{50} for mice (18-20 g) is 0.0432 mg, the usual ampule of serum containing 100 AU will neutralize 432 LD_{50} for mice. The most precise way of indicating the strength of serial batches of the antivenom serum is to specify the concentration of the antitoxic units.

1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--STRENGTH OF CRYSTALLIZATION STRUCTURES AFTER HYDRATION OF GROUND UNSLAKED LIME -U-

AUTHOR-(03)-LAKINSKAYA, N.M., MANAKIN, B., ILCHENKO, A.I.

COUNTRY OF INFO--USSR

SOURCE--BUDIVEL'NI MATER. KONSTR. 1970, (1), 38-40

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--SORPTION, CRYSTAL STRUCTURE, CALCIUM OXIDE, CALCIUM CARBONATE, LIME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605019/B03 STEP NO--UR/0635/70/000/001/0038/0040

CIRC ACCESSION NO--AP0140894

UNCLASSIFIED

HARDENED AT MINUS 150EGREES EXCEEDED THE STRENGTH OF SAMPLES HARDENED AT 150EGREES. THE HEAT OF HYDRATION OF CAO ELEVATES THE WATER TEMP. TO B.P. THUS FORMING GAS. THIS INTERFERES WITH THE SORPTION PROCESSES AND DESTROYS THE FORMING CRYSTAL STRUCTURE, WHICH CONSEQUENTLY CAN FORM ONLY AT MINUS 150EGREES. AFTER CACO SUB3 ADMIXT. THE STRUCTURES THAT POSSESS STRENGTH WERE PRESERVED ALSO AT 150EGREES. WHILE AFTER THE TEMP. DECREASE THE INTERVAL OF COMPN. THAT YIELDS THE STRUCTURE STRENGTH EXTENDED THE MORE THE LOWER THE TEMP.

UNCLASSIFIED

Acc. Nr: AA0101387 MANAKIN Ref. Code:
Abstracting Service: UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 3-70

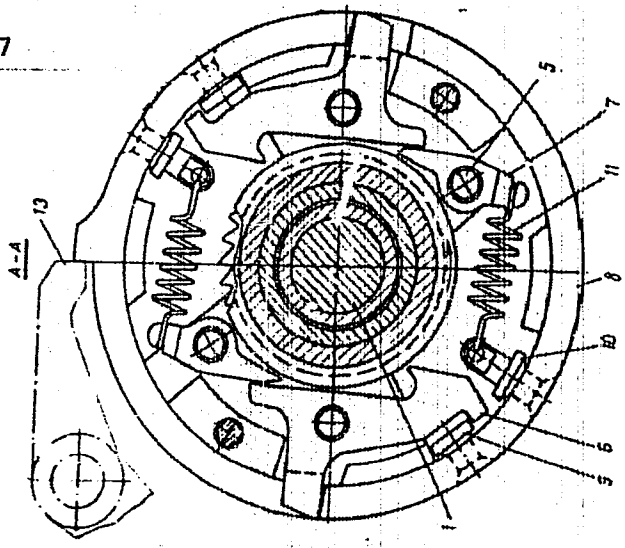
236152 START-STOP CLUTCH consisting of a ratchet wheel with triangular teeth, hinged dogs 6 and a stop ring 8, and designed to prevent the housing overrunning the ratchet wheel by having two stops 9 on the stop wheel to engage with projections on dogs 6. The ratchet wheel rotates at a constant speed when powered (normally by an electric motor) and if release lever 13 is not operated, the housing is fixed in position together with the stop wheel. When lever 13 is operated, springs 11 turn the stop wheel in relation to the fixed housing by a certain angle, and dogs 6, moved by the springs and levers 7 begin to engage with the ratchet wheel. As the ratchet wheel has an odd number of teeth and the dogs are set opposite one another only one of them engages with the ratchet teeth to the full extent. Stop 9 is then opposite the special projection on the dog, which prevents the housing from overrunning the ratchet wheel for any reason.

½ CH 13

REEL/FRAME
19851239

2/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0140894
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CUBES WERE FORMED FROM MIXTS. OF

AA0101387



28.2.67. as 1136841/25-27, MANAKIN, V.A. (12.6.69) Bul. 6/24.1.69. Class 47c, Int. Cl. F 16d.

19851240

USSR UDC 541.124/128

MANAKOV, M. N., MAKAROV, M. G., KOVALENKO, L. V., YAGFUDKOVA, Z. I., and SHVETS, N. A., Moscow Chemical-Technological Institute Imeni D. I. Mendeleyev

"Kinetics of the Reaction of Aromatic Aldehydes With Dialkylphosphinic Acids (Utilization of the Experiment Planning Method)"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 3, Mar 72, p [illegible]

Abstract: Reaction of dioctylphosphinic acid with benzaldehyde in presence of sodium ethoxide has the following kinetics:

$$W = A_o \exp(-E/RT)\ c_k^{\alpha}\ c_d^{\beta}\ c_o^{\gamma}$$

where c_k^{α}, c_d^{β}, c_b^{γ} are the concentrations of the catalyst, the dioctylphosphinic acid and benzaldehyde respectively. The orthogonal Box Plan was used in studying the kinetics of this reaction; the following results were obtained: $\ln A_o = 5.520 \pm 0.060$; $\alpha = 0.922 \pm 0.010$; $\beta = 0.884 \pm 0.009$; $\gamma = 1.006 \pm 0.011$; and $E = 9.66 \pm 0.11$ Kcal/mole.

1/1

USSR UDC 616-001.16

MANANCHIKOV, A. V., Endocrinology Department, Central Scientific Research Laboratory, Kirgiz Medical Institute

"Study of Redistribution of the Blood Circulation in Healthy Dogs and Also in Dogs With Depressed Thyroid Function Under Conditions of the City of Frunze and at High Altitude"

Frunze, Sovetskoye Zdravookhraneniye Kirgizii, No 6, Nov/Dec 70, pp 17-22

Abstract: Ten healthy dogs and 10 dogs with reduced thyroid activity (as a result of the introduction of methylthiouracil) were used in this study. Thyroid activity was monitored with I^{131} and regional blood circulation by means of a rheograph. During the high-altitude adaptation period, a redistribution of blood circulation in the sections of the head and hind leg was observed which was characterized by increased blood supply of the head and reduced hyperemia of the hind leg. Up to the 10th day of high-altitude adaptation, the redistribution of the blood circulation was more pronounced in the healthy dogs, but in both groups of dogs a tendency toward a drop in the intensity of redistribution was noted. No pronounced shifts in the hemodynamics of the head-hind leg were observed during the later days of the study.

1/1

USSR

UDC: 662.581

KLOCHKOV, I. S. and MANACHINSKIY, N. D., Moscow

"The Ignition of Hexogen by Heated Wires at Pressures of 1000-1300 kg/cm^2"

Novosibirsk, Fizika Goreniya i Vzryva, Vol 9, No 4, Jul-Aug 73, pp 510-515

Abstract: The authors present the results from studying the effect of pressure (up to 13000 kg/cm^2) on the ignition of hexogen by heat fluxes which are set up by thin (20-70 microns) incadescent wires. The energy and temperature of hexogen combustion were determined with respect to the energy of the condenser whose discharge was used to heat the wire inside the explosive and with respect to combustion lag time which was measured from the moment of circuit closing to the formation of a zone of ionized combustion products along the wire. The results of the experiment are compared to combustion energy values which were calculated with respect to the phenomenological theory for the case of "minimal" ignition. A formula is derived on the basis of the experimental results which makes it possible to estimate the energy of combustion up to relatively high pressures. It is also shown that the temperature and combustion lag time values decrease as pressure increases.

1/1

USSR

UDC 581.55:577.1(470.21)

MANAKOV, K. N.

Produktivnost' i Biologicheskiy Krugovorot v Tundrovykh Biogeotsenozakh Kol'skogo Poluostrova (Productivity and the Biological Cycle in Tundra Biogeocoenoses of the Kola Peninsula), Leningrad, Nauka, 1972, 148 pp

Translation: Conclusion:

The materials we have considered from the study of the primary aspects of the biological cycle of mineral elements in the most typical plant associations of the tundra zone within the limits of the Kola Peninsula make it possible to draw certain conclusions.

The biological cycle in the tundra biogeocoenoses of the Kola Peninsula occurs under conditions of increased atmospheric humidity, a scarcity of oxygen, decreased air and soil temperatures, with the long Polar day and the short growing period.

In the transition from the coniferous forests of the Northern Tayga to the tundra zone, a sharp drop (8-12 times) is observed in the overall dimensions of the phytomass. This decrease in the dimensions of the phytomass occurs primarily as a result of the decrease of the perennial woody part and large roots, and to a lesser extent through small roots and the green photosynthesizing part of plants.

The intensity of the biological cycle, that is, the number of chemical

1/5

USSR

MANAKOV, K. N., Produktivnost' i Biologicheskiy Krugovorot v Tundrovykh Biogeotsenozakh Kol'skogo Poluostrova, 1972, 148 pp

elements which pass through the forms of "living matter" in a unit of time, is extremely low in the tundra. It can be described by the annual growth and dying away of plants. In tundra communities the growth is only 5-20 quintals per hectare, while almost the same amount dies away.

The low indicators of the capacity and intensity of the biological cycle in tundra biogeocoenoses testify to the necessity of plants' making continuous and rapid use of the most scarce and geochemically mobile elements which are continuously included in the composition of the "living matter" of the tundra community. The comparatively small mass of the perennial parts of plants in comparison with the part that dies away each year is evidence of this.

The low ash content in the tundra plants and, at the same time, the relatively high content of the geochemically most mobile elements in it is a means by which tundra plants and phytocoenoses adapt to the scarcity of these elements.

Material from chemical analyses of the tundra humus-alluvial soils of the Kola Peninsula provides evidence that, in terms of their morphological, chemical and physico-chemical properties, these soils are close to the alluvial-humus-ferruginous podzol soils of the northern tayga forests. However, in the tundra

USSR

MANAKOV, K. N., Produktivnost' i Biologicheskiy Krugovorot v Tundrovykh Biogeotsenozakh Kol'skogo Poluostrova, 1972, 148 pp

soils the current podzol-formative process is strongly "retarded," despite its morphologically clear expression. Due to the small dimensions of the phytomass in tundra biogeocoenoses, the biological cycle is characterized by weak involvement of chemical elements making up the primary minerals in the biological cycles.

In addition to the humus-alluvial soils, tundra mulch humus-saturated soils are widespread in the tundra zone on loamy and clayey soil-forming rocks. These soils typically have more even distribution of humus in the cross-section, without the formation of alluvial layers.

Further research on questions of the biological cycle in the tundra should pursue the course of studying the cycles of migration of mineral elements within the year, which will make it possible to get a deeper understanding of the processes taking place in tundra soils and will help find ways to use them more rationally.

Table of contents:

3/5

USSR

MANAKOV, K. N., Produktivnost' i Biologicheskiy Krugovorot v Tundrovykh Biogeotsenozakh Kol'skogo Poluostrova, 1972, 148 pp

4/5

USSR

MANAKOV, K. N., Produktivnost' i Biologicheskiy Krugovorot v Tundrovykh Biogeotsenozakh Kol'skogo Poluostrova, 1972, 148 pp

5/5

UDC 632.954:635.342

USSR

MANANKOV, M. Ye., and IVANOVA, Ye. P., Scientific Research Institute of Potato and Horticulture

"The Use of Herbicides in Growing Cabbage by the Non-Seedling Method"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 11, No 8 (118), 1973, pp 55-56

Abstract: Under conditions of irrigational soil cultivation in the south-eastern Kazakhstan region, planting the cabbage by the non-seedling method, the application of semeron in doses of 0.07-1.0 kg/hectare proved to be effective. 65-94.7% of the weeds were destroyed. The cabbage crop increased by 72.3 hundred weights per hectare without a decrease in quality. Sodium trichloroacetate appeared to be useful only in spring applications on fields heavily infested with monocotyledonous weeds.

USSR UDC: 538.56:538.311

MANANKOVA, A. V., BORISOV, V. V., Leningrad State University

"Incidence of a Plane Wave on the Boundary of a Conductive Region Moving at the Speed of Light"

Gor'kiy, IVUZ Radiofizika, Vol 15, No 6, 1972, pp 928-934

Abstract: The problem of incidence of an electromagnetic pulse signal against the boundary of a conductive region moving at the speed of light is considered. It is assumed that the time between collisions of electrons with neutral particles or ions is much less than the characteristic scale of the time process being analyzed, and that the electromagnetic fields behind the front can be described by Maxwell equations with conduction current added. The behavior of the transverse components of vectors E and B during passage through the moving interface is analyzed. The solution of the nonstationary problem is constructed. In the case of an incident wave with time dependence in the form of an inclusion function, or in the form of an inclusion function with sinusoidal filling, the solution is expressed in terms of special functions. It is shown that when the conductivity of the medium approaches infinity, a static nonhomogeneous magnetic field, and a conduction current whose density is independent of time arise

1/2

USSR
MANANKOVA, A. V., BORISOV, V. V., IVUZ Radiofizika, Vol 15, No 6, pp 928-934

as a result of the effect of the plane electromagnetic wave on the boundary of the region. In this case, the transverse component of vector E approaches zero. The spatial distribution of the conductivity of the medium and the transverse components of the vectors E and B is determined by the time dependence of the incident wave.

2/2

USSR

UDC 538.573

MANANKOVA, A.V. [Leningrad State University]

"Electromagnetic Radiation From Sources Above A Perfectly Conducting Extending Sphere"

Izv.VUZ:Radiofizika, Vol XV, No 2, Feb 1972, pp 211-220

Abstract: The paper discusses the electromagnetic fields created by external currents of a traveling-wave type above a perfectly conducting spherical region, the radius of which changes in time. The problem considered is an idealized model for determination of electromagnetic fields which originate during absorption of ionizing radiation by a point source. A concrete calculation is made and the pulse shape which depends on the problem parameters is discussed.
The author thanks V.N. Krasil'nikov for the statement of the problem, and A.A. Andronov and Y.I. Semenov for discussions of the results of the work.
2 fig. 6 ref.

1/1

USSR

UDC 538.573

MANANKOVA, A. V., Leningrad State University

"Electromagnetic Radiation from Sources Above an Ideally Conducting Expanding Sphere"

Gor'kiy, Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XV, No 2, 1972, pp 211-220

Abstract: The electromagnetic fields created by side currents of the traveling wave type over an ideally conducting expanding sphere were investigated. The investigated problem is an idealized model for determining the electromagnetic field occurring on absorption of ionizing radiation created by a point source. The fast electrons formed as a result of photoabsorption or Compton scattering constitute the side current. The secondary electrons formed as a result of the ionization losses of the charged particles of initially high energy are the conduction electrons. The characteristic frequency of the processes of interest is much lower than the collision frequency of the secondary electrons with the molecules of the neutral gas components. The density of the absorbed energy and, consequently, the density of the side current are proportional to the factor $e^{-\mu r}$ where μ is the absorption coefficient. The exponential drop in the density of the absorbed energy together with the time factor of growth

1/2

USSR

MANANKOVA, A. V., Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XV, No 2, 1972, pp 211-220

of the conductivity behind the ionization front forces consideration of the speed of the movement of the boundary (for example, the boundary of the fixed value of the conductivity) different from the speed of light in the general case. On introduction of moving boundaries and (or) distributed sources where the region occupied by them varies with time, it is more convenient not to carry out complete separation of the variables, but, separating only the angular dependence, to solve the partial differential equation which offers the possibility of representing the solution of the problem in the form of a multipole expansion directly in the time domain. The mathematical apparatus then is adequate for the essentially nonstationary nature of the problem and the results are less difficult to obtain. In the dipole approximation, oscillation conditions do not occur as in the problem of radiation over an ideally conducting expanding sphere of sources of the electric type.

2/2

USSR

CHIRKOV, V. D., KUZOVLEV, V. V., and MANANNIKOV, A. S., Gorky Medical Institute imeni S. M. Kirov

"Impedance of the Cerebral Cortex in Relation to the Nonsynaptic Action of Biopotentials"

Moscow, Biofizika, No 1, 1970, pp 84-88

Abstract: Impedance was measured in intact and isolated portions of the cerebral cortex of adult cats at frequencies ranging from 50 to 1,500 Hz. Strychnine (1 percent solution) was applied to the normal cortex of six of the animals. The strychninized cortex, where epileptiform discharges occur, was found to have less impedance than in its normal state. The impedance of the isolated portion of cortex was higher than that of intact neocortex. Although the rapid cellular potentials provide better physical conditions for propagation through brain tissue, the slow summary waves can act over larger distances. The increased conductivity of the strychninized cortex is ascribed to the increase in ion permeability of the nerve cell membranes, whereas the decrease in conductivity of the isolated cortex seems to be due to reduction in the membrane charge. Thus, slow electrotonic waves may directly influence the function of nerve elements for a considerable distance, but the rapid potentials act on the neurons located very close to the point of origin.
1/1

USSR UDC: 621.378.324+621.585.27.81

LEONOV, G. S., MANANOV, R. G., TARKHOV, Yu. K., SHIPULO, G. P.

"Effective Pumping of a Continuous Garnet Laser by a Water Cooled Metal Halide Lamp"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972, pp 112-115

Abstract: A design is proposed for a water-cooled metal halide flash tube. The spectral characteristics of lamps filled with Xe + Hg + NaI + RbI and with Xe + Hg + NaI + TlI are studied. Nd:YAG laser emission power is measured as a function of pumping for lamps with different fillers. It is shown that the differential efficiency of a laser when pumped by a tube with sodium and rubidium iodides added is 5.5 times as high as when a xenon tube is used, and 1.5 times as high as when a krypton tube is used for pumping. Four illustrations, bibliography of seven titles.

1/1

USSR

UDC 547.26'118,541.49

BASHKIROV, S. H., KURAMSHIN, I. YA., MANAPOV, R. A., MURATOVA, A. A., SAFIN, I. A., and KHRAMOV, A. S., Kazan' State University, Kazan'

"The Effect of the Ligand Size on the Magnitude of theQuadrupole Splitting of the Nuclear Gamma Resonance Spectra of S-Alkyl Esters of Thio- and Dithiophosphorus Acids with Stannic Tetrahalides"

Moscow, Zhurnal Strukturnoy Khimii, Vol 14, No 5, Sep-Oct 73, pp 935-937

Abstract: The nuclear gamma resonance spectra of compounds $/R_2P(Y)(SR')/_2 \cdot SnX_4$ (R = Me, Et, n-Pr, i-Pr, Bu, EtO, n-PrO, i-PrO, BuO; R' = Me, Et, Pr; Y = O, S; X = Cl, Br) were determined. With an increasing volume of R in $R_2P(O)(SR')$ of the complex, an electrical field gradient at the Sn nucleus developed which caused quadrupole splitting. This effect depended on the geometric configuration of the complexes and also on the spatial configuration of the organic ligand. In complexes $/R_2P(S)SMe/_2 \cdot SnX_4$ (R = Et, i-Pr, n-Bu), quadrupole splitting did not take place irrespective of the volume of R, although the donor-acceptor interaction was smaller for S→Sn than for O→Sn.

1/1

USSR UDC: 537.226.33

GRODSHTEYN, A. Ye., MANAKOVA, N. A., NIKITINA, T. A., SVIRIDOVA, T. P.

"A Ferroelectric"

USSR Author's Certificate No 283344, filed 2 Jun 69, published 22 Dec 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V472 P)

Translation: A ferroelectric is proposed which is based on oxides of barium, manganese and titanium dioxide. As a distinguishing feature of the patent, the thermal stability of the material is improved by adding aluminum oxide to the charge and taking the initial components in the following proportions (in percent by weight): barium oxide 33-31, manganese oxide, 18-17, titanium dioxide 48-46, and aluminum oxide 1-6.

1/1

Organophosphorus Compounds

USSR

UDC 547.241:541.49

PUDOVIK, A. N., KURAMSHIN, I. YA., YARKOVA, E. G., MURATOVA, A. A., MUSINA, A. A., and MANAPOV, R. A., Kazan' State University imeni V. I. Ul'yanov-Lenin

"Study of the Reaction of Methyl Ester and Acid Chloride of Dimethylphosphinic Acid and Their Thione Analogues With Tin Halides"

Leningrad, Zhurnal Obshchey Khimii, Vol 43(105), No 6, Jun 73, pp 1229-1236

Abstract: Complexes of O-methyldimethylphosphinate and acid chloride of dimethylphosphinic acid with tin tetra- and alkyl halides have been obtained and characterized. Their IR, NMR, and NQR spectra have been studied, establishing that the coordination is due to the donor properties of the phosphoryl group oxygen. It has been shown that $\Delta\nu(P{=}O)/\nu_0(P{=}O)$ of the O-methyldimethylphosphinate and acid chloride of the dimethylphosphinic acid changes symbatically with $\Sigma\sigma^*$ of the substituents at the tin atom. A linear relationship has been established for the stannic chloride complexes with dimethylphosphinic acid between $\Delta\nu(P{=}O)/\nu_0(P{=}O)$ and $\Sigma\sigma_p$ of the substituents at the phosphorus atom. It has been shown that the thiophosphoryl sulfur has a lower donor ability than the phosphoryl oxygen. Geometrical structure of the obtained complexes has been discussed.

1/1

USSR

UDC 541.6+541.49

PUDOVIK, A. N., KURAMSHIN, I. YA., MURATOVA, A. A., MANAPOV, R. A., YARKOVA, E. G., and MUSAITOVA, G. M., Kazan' State University Imeni V. I. Ul'yanov-Lenin

"S-Alkyl Diethylthiophosphinites and Their Complexes with Stannic Chloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, p 1196

Abstract: IR spectra were studied of S-ethyl diethylthiophosphinite (I), S-n-propyl diethylphosphinite (II), diethylchlorophosphine (III), diethyl sulfide (IV) and tributylphosphine (V) in liquid state using solvents with different polarity. Analysis of the data on (I) and (II) indicated that these compounds exist as mixtures of two conformers arising from the rotation around the P-C bond, even though the rotation around the S-C bond could not be excluded. Following complexes were synthesized and studied: $[(C_2H_5)_2PR]_2SnCl_4$ where $R=C_2H_5S$, $n\text{-}C_3H_7S$, $[(C_2H_5)_2S]_2SnCl_4$ and $[(C_4H_9)_3P]_2SnCl_4$. These complexes were formed because of the donor properties of the phosphorus atom.

1/1

USSR

UDC 661.143

POSTOLOV, V. S., MANASHIROV, O. Ya., PANCHENKO, A. I.

"Chemical Composition of the Phases Formed in the Ternary System of Li_2CO_3-Ga_2O_3-$2GeO_2$"

Sb. nauch. tr. VNII lyuminoforov i osobo chist. veshchestv (Collection of Scientific Works of the All-Union Scientific Research Institute of Luminophors and Materials of Extreme Purity), 1972, vyp. 7, pp 5-11) (from RZh-Khimiya, No 6 (II), 1973, Abstract No 6L159)

Translation: A study was made of the processes occurring in binary systems of Li_2CO_3-Ga_2O_3 and Li_2CO_3-GeO_2 with heating in the air to 1,000°. The chemical composition of the phases was studied, and the conversion sequence in the ternary system of Li_2CO_3:Ga_2O_3:GeO_2 = 1:1:2 was investigated with heating in the air to 1,000°. The results of the x-ray studies of the compound $LiGaGeO_4$ formed in the ternary system are presented. The compounds based on gallates and gallosilicates of the alkali metals are used as the photo and cathodoluminophors. The bibliography has 16 entries.

1/1

USSR UDC 615.32:636

MANASYAN, A. V., and MANUKYAN, V. A., Yerevan Zoo veterinary Institute

"The Stimulating Effect of Eleutherococcus on Cattle. I"

Yerevan, Biologicheskiy Zhurnal Armenii, Vol 23, No 8, Aug 70, pp 107-108

Abstract: Healthy 14-16 month old bulls were used in the investigation to establish the stimulating and minimum doses of an extract of Eleutherococcus senticosus R. et M., when used for the therapy of gastrointestinal disorders in cattle. The effect of the preparation on the clinical and hematological indices of the organism was also determined. The practical dose of the preparation when administered intramuscularly was established as 0.001 ml/kg. The animals were examined prior to and 1, 3, 6, and 24 hours after injection of the extract. Eleutherococcus preparations were therapeutically effective, and produced no negative clinical results. The extract has a stimulating effect on the organism and increases the quantity of leukocytes in the blood (in particular, neutrophils), an important factor in control of infections. The stimulating effect of the Eleutherococcus preparation is mainly due to its favorable effect on the hematopoietic organs.

1/1

1/2 010 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--RECOVERY OF SULFURIC ACID BY HIGH TEMPERATURE DECOMPOSITION OF SPENT ACID -U-

AUTHOR-(05)-SISIN, M.F., LAKIZA, S.M., MANAYEV, A.KH., KOLBASIN, A.YA., LANGE, S.A.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB, NEFTEKHIM. (MOSCOW) 1970, (1), 23-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--SULFURIC ACID, THERMAL DECOMPOSITION, WASTE TREATMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1819 STEP NO--UR/0318/70/000/001/0023/0025

CIRC ACCESSION NO--AP0118783

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118783

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPENT H SUB2 SO SUB4 FROM DITOLYLMETHANE MANUF. AND ALKYLATION WAS DECOMPD. IN A FURNACE AT 1200DEGREES, WHERE H SUB2 S WAS BURNT. THE TEMP. IN THE FURNACE WAS CONTROLLED BY ENDOTHERMIC DECOMPN. OF THE ACID, THE LATTER BEING FED IN DETD. AMTS. THE METHOD WAS RECOMMENDED FOR THE PRODUCTION OF H SUB2 SO SUB4 BY DRY CATALYSIS. THE DECOMPN. CONDITIONS ARE TABULATED AND A FLOW SHEET IS PRESENTED FACILITY: SALAVAT, NKHK, SALAVANT, USSR.

UNCLASSIFIED

USSR UDC 577.391

SHASHKOV, V. S., ANASHKIN, O. D., SUVOROV, N. N., and [redacted]

"Effectiveness of Serotonin, Mexamine, AET, and Cystamine Administered Repeatedly After Gamma-Irradiation"

Moscow, Radiobiologiya, Vol 11, No 4, Jul/Aug 71, pp 621-623

Abstract: After rats had been irradiated with gamma-rays in a dose of 800 r, serotonin, mexamine (5-methoxytryptamine HCl), AET (S-betaaminoethylthioisouronium bromide HBr), or cystamine was administered to them intraperitoneally four times (5, 15, 30, and 45 min after irradiation). As compared with a 10% rate of survival for control rats 30 days after irradiation, the rate of survival on administration of serotonin in four single doses of 2.3 and 3 mg/kg was 50 and 40%, respectively; on administration of mexamine in single doses of 2.5 and 4 mg/kg, 18 and 23.5%, respectively; on administration of cystamine in single doses of 3.33 and 5 mg/kg, 36 and 19%, respectively; and on administration of AET in single doses of 2 and 5 mg/kg, 44 and 23.5%, respectively. The results showed that the radiation protectors exerted a therapeutic effect in the doses indicated, which were small in comparison with the optimal doses effective on administration before irradiation. When the single doses of the substances tested were increased above the higher of the 1/2

USSR

SHASHKOV, V. S., et al., Radiobiologiya, Vol 11, No 4, Jul/Aug 71, pp 621-623

two mentioned, the rate of survival of the animals was reduced, reaching zero on the 30th day after irradiation.

2/2

1/2 045 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--EFFECT OF A LONGITUDINAL MAGNETIC FIELD ON THE STABILITY OF A FLOW OF A CONDUCTING LIQUID -U-

AUTHOR-(03)-GENIN, L.G., ZHILIN, V.G., MANCHKHA, S.P.

COUNTRY OF INFO--USSR

SOURCE--TEPLOFIZ. VYS. TEMP. 1970, 8(2), 454-7

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--REYNOLDS NUMBER, MAGNETIC FIELD EFFECT, TURBULENT FLOW, MERCURY, STAINLESS STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1420 STEP NO--UR/0294/70/008/002/0454/0457

CIRC ACCESSION NO--AP0133372

UNCLASSIFIED

2/2 045 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0133372

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF A LONGITUDINAL MAGNETIC FIELD (1.1 WEBERS-M PRIME2) ON THE TRANSITION FROM LAMINAR TO TURBULENT FLOW OF A CONDUCTIVE LIQ. WAS STUDIED FOR HG IN A STAINLESS STEEL TUBE OF 5.1-MM DIAM. AND 710-MM LENGTH BY THE PRESSURE DROP MEASUREMENT METHOD. THE FRICTION FACTORS AND PRESSURE DISTRIBUTION ALONG THE TUBE ARE PLOTTED AS A FUNCTION OF REYNOLDS NOS. (RE) FOR HG WITH AND WITHOUT A MAGNETIC FIELD AND WITH AND WITHOUT A TURBULENT FLOW INDUCING RING. A TRANSITION TO TURBULENT FLOW BEGINNING AT RE APPROXIMATELY EQUAL TO 3000 TO RE IS GREATER THAN 5000 WAS OBSD. IN THE MAGNETIC FIELD. FACILITY: INST. VYS. TEMP., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 534.852.2

RALKO, A. V., KURSENKO, I. V., MANCHUK, K. I., GAVRISH, A. P., KOVENSKIY, B. G., "Kiev "Order of Lenin" Polytechnical Institute imeni the Fiftieth Anniversary of the Great October Socialist Revolution

"A Method of Making Ferrite Magnetic Heads"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 30, Oct 71, Author's Certificate No 317100, Division G, filed 22 May 70, published 7 Oct 71, p 184

Translation: This Authors' Certificate introduces a method of making ferrite magnetic heads by adding a vitrifying material in the working gap between ferrite cores, and heating it to the vitrification point. As a distinguishing feature of the patent, the manufacturing process is simplified by impregnating a porous material such as ash-free filter paper with the vitrifying material, drying, and placing a sheet of the impregnated material between the ferrite cores.

1/1

MANDEL, P.

Biochemistry - 1

UNCLASSIFIED

Author: Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov (Academy of Sciences USSR)

Description:

(U) During this quarterly reporting period, 14 new articles were located from the Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov (IEPIB). On the basis of these articles, it was possible to associate ten new persons with the Institute. Given below is a list of these persons, the subjects of the articles and the dates:

[illegible]	acetylcholine	1970(3)
Frolov, Ye.	phospholipids	1968(4)
Gazaryan, D. M.	digestion	1970(5)
[illegible]	muscle physiology	1970(6)
Mandel, P.	phospholipids	1969(7)
Shenkin, L. L.	spectrophotometer	1970(7)
Poznanskaya, L. F.	phospholipids	1969(4)
Sukhotskiy, Yu. A.	nucleotides	1970(8)
Serebrennikova, T. P.	muscle physiology	1969(9)
Tereshkova, M. N.	cholinesterase	1970(10,11)

Five of the articles were coauthored by persons already identified with the Institute. These articles dealt with nerve physiology(12), muscle physiology(13), and enzyme activity(14-16).

(U) A large number of persons have been identified with the Institute during the preceding quarterly reporting periods. To provide a ready source of reference, given below is a list of all the IEPIB staff members identified to the present time.

1/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--ALTERNATING CURRENT PHOTOCONDUCTIVITY RELAXATION OF COLORED POTASSIUM CHLORIDE CRYSTALS -U-

AUTHOR-(03)-DYACHENKO, N.G., MANDEL, V.E., TYURIN, A.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1571-3

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHOTOCONDUCTIVITY, POTASSIUM CHLORIDE, SINGLE CRYSTAL, ALTERNATING CURRENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1134 STEP NO--UR/0181/70/012/005/1571/1573

CIRC ACCESSION NO--AP0136554

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136554

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHOTOCOND. WAS INVESTIGATED OF ADDITIVELY COLORED KCL SINGLE CRYSTALS. IN SPECIMENS WITH SPUTTERED ELECTRODES, CONVENTIONAL PHOTOCOND. WAS OBSD. FROM ROOM TEMP. TO 150DEGREES. WITHOUT SPUTTERED ELECTRODES, THE PHOTOEFFECT WAS DUE TO INCREASED CAPACITATIVE SUSCEPTANCE. ITS KINETICS IS COMPLEX.

FACILITY: ODESS. GOS. UNIV. IM. MECHNIKOVA, ODESSA, USSR.

UNCLASSIFIED

USSR

UDC: 620.171.2

MANDEL', V. S., ALYANSKIY, R. I., TROTSENKO, V. Ya., Nikolayev

"Limiting Rotating Speed of Closed Radial Turbine Wheel"

Kiev, Problemy Prochnosti, No 3, Mar 73, pp 74-80.

Abstract: Methods of limiting equillibrium are used to design a closed radial wheel, the rupture of which can occur in various forms. Mechanisms of loss of load-bearing ability are studied and calculation formulas are produced for the cases of combined rupture of the main and cover discs, rupture of the cover disc both without bending and with bending with rupture of the axial coupling between it and the main disc, and also for rupture of the blades. Various conditions of blade attachment are considered, as well as the longitudinal forces arising in blades with curvature. The results of calculations and experiments are compared.

1/1